



## BRIEFING

### Update on MIAS lobby pilot and room releases

<b>Date:</b>	24 August 2021	<b>Priority:</b>	High
<b>Security classification:</b>		<b>Tracking number:</b>	2122-0631

Action sought		
	Action sought	Deadline
Hon Chris Hipkins <b>Minister for COVID-19 Response</b>	<b>Agree</b> to MIQ piloting a “virtual lobby” functionality for the MIAS website  <b>Note</b> updated timing on publicising the release of rooms on MIAS for September and October	26 August 2021

Contact for telephone discussion (if required)			
Name	Position	Telephone	1st contact
Privacy of natural persons	Manager, Allocation and Supply, MIQ Policy	Privacy of natural persons	✓
	MIAS Product Owner, MIQ		
	Senior Policy Advisor		

The following departments/agencies have been consulted

Minister's office to complete:

Approved

Noted

Seen

See Minister's Notes

Declined

Needs change

Overtaken by Events

Withdrawn

Comments



# BRIEFING

## Update on MIAS lobby pilot and room releases

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### Purpose

This briefing:

- Seeks your agreement to the piloting of a “virtual lobby” approach for the Managed Isolation Allocation System (MIAS) website, as a measure to improve MIAS website stability and ease of use for travellers; and
- Updates you on the intended approach to room releases and public notification while this development is being implemented.

### Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

- a **Note** that there continues to be very high demand for MIQ rooms, at times reaching or exceeding the number of users the MIAS website can serve without crashing

*Noted*

*MIAS “virtual lobby”*

- b **Note** that officials have developed an upgrade to the MIAS site (a “virtual lobby”) which will limit the number of users that can book rooms at one time to avoid the website crashing during peak demand periods

*Noted*

- c **Note** that this will see MIAS users access the booking system via virtual lobby at times of high demand, with users then placed in a queue to access the full booking system

*Noted*

- d **Note** that the virtual lobby will significantly improve website stability, reduce the perceived benefits of constantly refreshing the website and using automated scripts (“bots”), and allow early notification of room releases to occur without the website crashing

*Noted*

- e **Note** that the virtual lobby will also improve the experience for users, offering increase stability, removing the need to continuously check the website for new vouchers, and using a format they are familiar with from other ticket-buying experiences

*Noted*

- f **Agree** to the piloting of the virtual lobby on the MIAS website for the next significant room release, covering rooms for travel in September and October 2021

[or whenever the next significant release ends up being](#)

**Agree** / Disagree / Discuss

g **Note** that if you agree to the piloting of the virtual lobby approach, three to four days of lead time is required from that point before rooms can be released, to enable appropriate communications and final technical implementation, during which time it will not be possible for users to book rooms on MIAS

*Noted*

h **Agree**, subject to final confirmation of timing, for the pilot of the virtual lobby to take place during the week commencing 30 August

**Agree** / Disagree / Discuss

i **Note** that this timing may be subject to change or delay as MIQ responds to the current community outbreak, and your office will be advised of updated timing if required

*Noted*

j **Note** that if the virtual lobby pilot is successful, this functionality will continue to be used for future large room releases, with any necessary modifications

*Noted*

#### *Room releases*

k **Note** that officials previously advised that room release notifications could be implemented immediately, although at some risk to MIAS website availability [briefing 2122-0450 refers]

*Noted*

l **Note** that further technical work with the provider of MIAS indicates that the current demand on the site is such that room release notifications at this time would cause persistent, rather than occasional, outages of the website, meaning rooms could not be secured online

*Noted*

m **Note** that to prevent website outages, MBIE does not intend to publically announce room releases until the virtual lobby is implemented

*Noted*

n **Note** that MBIE has currently suspended the release of rooms to respond to emerging events, but the next large room release for September and October will be publically notified at the same time as announcing the pilot of the virtual lobby

*Noted*

o **Note** that, to ensure clear public communications to support to virtual lobby pilot, the implementation of ring-fencing of rooms on MIAS will be deferred

*Noted*

p **Agree** that this briefing be proactively released with appropriate withholdings under the Official Information Act 1982.

**Agree** / Disagree



Kara Isaac  
**General Manager, MIQ Policy**  
MIQ, MBIE

..24.. / ..08.. / ..2021..



Hon Chris Hipkins  
**Minister for COVID-19 Response**

27 / 08 / 2021

## Background

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### *MIQ booking trends*

1. Since its implementation in October 2020, the MIAS website has worked well to allocate a large number of MIQ rooms. However, three recent trends have significantly changed traveller behaviour, creating a critical challenge for the way MIQ rooms are distributed.
2. Since June 2021 MIQ has seen:
  - a. An increase in demand for MIQ rooms, in particular driven by New Zealanders seeking to travel from Europe and the United States – likely including the early start of Christmas/summer season demand;
  - b. This increase in demand has interacted with MIQ’s approach of releasing rooms gradually over a longer timeframe<sup>1</sup> to create a public perception that there are few/no MIQ rooms available for the remainder of 2021. This creates a sense of urgency which has incentivised users to continually ‘refresh’ and check the site for rooms;
  - c. Media reports of users securing rooms via bots or booking services have created a perception that they are widely used, which has then driven an increase in their use.
3. The Ombudsman has also publically announced that he is considering launching an enquiry into MIQ and MIAS. This is based on reports of a number of Ombudsman complaints since mid-June from people who are missing out on getting a space in an MIQ.

### *MIAS website demand*

4. As a result of the above trends activity on the MIAS website has increased significantly, from around 5,000 daily unique users in early May, to 19,000-20,000 daily unique users in late July/early August.
5. This is particularly acute when information circulates on social media that additional rooms have been released (whether accurate or not). At times of peak demand, this overwhelms the capacity of the MIAS website to respond, preventing any users from accessing MIQ rooms.
6. This technical constraint is not limited to server processing capacity, which scales to allow more users onto the MIAS website during times of high demand. Rather, the current design of the MIAS website means that it undertakes individual calculations of room availability each time a user queries selects any given day or calendar of dates. It is this live calculation which limits the site’s ability to serve a large number of concurrent users.
7. As a result of this excess demand, the current MIAS website model is no longer fit-for-purpose, and requires changes to enable it to effectively manage the flow of users at peak times.

## MIAS website “virtual lobby” pilot

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### **Proposed pilot**

8. MBIE proposes to pilot the virtual lobby approach with the next large release of MIQ rooms, with around 2000 rooms in September and October currently due to be released imminently. This will allow officials to test user behaviour and system stability, to understand the benefits the virtual lobby approach can offer.

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<sup>1</sup> With 40% of rooms now released up to six months prior to travel, and the remaining rooms released progressively over time – aide memoire 2021-2954 refers]

9. The scale of rooms to be released, and for what travel dates, can be amended before the pilot begins, if required by the ongoing response to the New Zealand community outbreak.

## **Design and user experience**

10. To address this challenge, officials engaged with the MIAS website provider and other queuing solution providers to determine possible solutions. Advice from providers has recommended developing a virtual lobby approach.
11. This approach will provide a very similar user experience to other common online booking experiences that need to manage peaks in demand, such as booking concert tickets, both providing some reassurance for users interacting with familiar processes, and allowing MIQ to benefit from insights and techniques developed by industry over time in managing similar demand challenges. It is operated by an existing international provider of online demand management solutions, using technology which has managed ticketing for major events such as the Tokyo 2020 Olympics (which successfully managed around 15 million unique users when tickets were first released).
12. Once released, this virtual lobby approach will be able to be activated for any room releases if needed.
13. The user experience is divided into three phases – before the room release (the “lobby”), after the room release (the “queue”), and then a return to normal MIAS booking calendar function. The full user flow is set out at Annex One, with key steps summarised below.
14. Prior to the time of a room release, the booking section of the MIAS website will be unavailable for 48 hours prior to the lobby opening, with users informed of the upcoming release. However, other functionality, such as FAQs, flight information, printing of vouchers, and account creation will be maintained.

### *Lobby phase*

15. MBIE will give advanced public notice of when further rooms will be released, allowing users to plan to be on the MIAS website at that time.
16. Users arriving on the website before the time of the room release will be placed in a virtual lobby, which will open two hours prior to the room release (this time can be altered if needed, for instance in response to very heavy website traffic prior to the lobby opening).
17. Users in the lobby will be clearly informed that the booking session has not yet begun, when the booking session begins, and that they will be placed in the queue when it does begin.
18. The notification will also make clear that users are released from the lobby into the queue randomly, to assure users that those who join the lobby early are not given an advantage over other users – that all users who arrive before the start of the booking session will be treated equally.

### *Queue phase*

19. At the time of release, the booking queue is opened. The initial queue is established from all users in the lobby at the time of release, with each user’s place in the queue randomly determined.
20. Users in the queue are notified of their queue number, and how many users are currently waiting in the queue ahead of them.
21. Users are then released from the queue into the booking system according to their place in it.

22. Once released into the booking system, users will not be limited in how long they have to complete their booking – aiming to reduce the current perception of urgency in completing the booking process.
23. Users who arrive after the start of the booking session are added to the queue in the order they arrive.
24. This process continues until either all rooms are allocated or all users have been able to book, at which point any remaining users are notified that the booking session has now ended.

## **Benefits and risks of a virtual lobby approach**

### *Benefits*

25. The virtual lobby approach will offer a better experience to users in three ways: increasing the stability of the site, enabling advanced notification of room releases, and using a booking process familiar to users from other services where people need to book tickets amongst very high public demand.
26. Limiting the number of users at any one time who can interact with the full booking system, with its more complex requirements, will significantly improve the stability of the MIAS website during times of high demand. It will ensure the website can remain operational even during times of the most significant demand, avoiding website crashes which frustrate users and prevent them from booking MIQ rooms.
27. This stability will enable the public to be notified in advance of when significant room releases are planned, mitigating the need for users to continuously check for newly released rooms. While such notifications will drive significant volumes of users to the MIAS website, the virtual lobby feature – using international online demand management software capable of handling significantly larger scale demand - will ensure that the site remains stable and usable despite this high demand.
28. This stability will be an important step towards improving the user experience and increasing confidence in the MIAS website. The current process, which incentivises users to keep trying for to secure rooms, to rush (or use automated scripts) to try to secure rooms more quickly, and to do so in the face of website outages at times of high demand, will be replaced with an experience which is more familiar to other comparable booking experiences, less time-pressured, and with a more predictable process.
29. The introduction of a virtual lobby will also have a benefit in significantly reducing the perceived advantages that users can get from scripts (bots). By staggering the release of users onto the MIAS booking system and reducing the need for speed in the booking process, the advantages in speed that bots are thought to grant users will be removed.

### *Risks*

30. While we anticipate that increased system stability and prior notice of room releases will lead to an enhanced user experience, the queuing element of the virtual lobby will also highlight for users the extremely high current demand for MIQ rooms. It is likely that some users will find themselves behind thousands, or even tens of thousands, of other users awaiting the opportunity to book a significantly smaller number of available rooms.
31. This increased transparency may increase the perception of delays in the MIQ booking process and increase anxiety amongst users.

32. While the virtual lobby system will significantly reduce the advantage that bots can be perceived to give users, it will not entirely eliminate the ability for some users to try to gain an advantage. In particular, the random allocation of users from the lobby into the booking queue may lead to some users creating multiple registrations to secure multiple spots in the initial queue, in the hope that one or more registration is granted a higher initial place.
33. The random allocation of users from the lobby into the queue itself may provoke a mixed response from users. While some users may consider it “unfair” to not be dealt with in an entirely First Come First Served manner, others may perceive a randomised system, which gives all users the same, equal chance of securing a high place in the queue, to be fairer than the current system.
34. Officials will continue to monitor this behaviour, particular as users become more familiar with the new system, and continue to develop and implement technical countermeasures where possible.

## Timing

35. As part of the lobby process, in particular the pilot, it is necessary to suspend access to the room booking functionality on the MIAS website for a time to allow for final technical implementation. Effective communications to help users understand the new system will also be vital to the success of the pilot and to managing user expectations.
36. Table 1 below, sets out an illustrative timeline.

Timing	Activity
Day 0	Pilot approval from Minister for COVID-19 Response
10am Day 1	Public communications about changes to booking process and pending room release begins
10am Day 1 <sup>2</sup>	Calendar and booking functionality on MIAS website suspended
72 hours	Final technical implementation of virtual lobby
10am Day 4	Lobby opens
12pm Day 4	Room release

37. The above timeline reflects a recommended 72 hour stand-down period prior to the first pilot release. This allows time to ensure successful implementation technical implementation, public communications, and allows time for the lobby to be activated earlier in the day if needed in response to high website traffic for the first release.
38. The minimum time required between closing booking functionality and the MIAS lobby opening is 48 hours.

## Upcoming room releases

39. You have previously agreed to the release of a further 1300 MIQ rooms for September, and 1000 for October, onto MIAS between 17 and 29 August [briefing 2122-0450 refers].

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<sup>2</sup> The suspension of bookings and start of public communications are recommended for the same time to mitigate the risk of a rush of travellers seeking to book before the booking suspension takes effect.

40. In that briefing officials also noted the intention to publicise the upcoming release of rooms, noting that this would likely create a risk of periods where the MIAS website was unable to manage demand.
41. Further technical discussions with the provider of MIAS has provided greater clarity on this risk. We are now advised that in light of the level of demand currently being experienced and the technical limitations, a significant and publicly notified release of rooms would likely cause a prolonged outage of the website. The ongoing demand would likely result in the website repeatedly crashing, resulting in few, if any, users being able to successfully secure a room.
42. In light of this advice, MBIE considers it necessary to delay any public announcement of room releases until the virtual lobby functionality is completed.
43. Officials have currently temporarily paused the release of further rooms onto MIAS, to enable capacity to deal with current emerging pressures, including both the New Zealand community outbreak response and the urgent need to accommodate arrivals from Afghanistan.
44. Once the virtual lobby pilot is in place, it will then be possible to release the remaining rooms (currently anticipated to be over 2000 rooms), and give public notice that the releases are taking place, without compromising website stability.

#### *Ring-fencing of rooms for future releases*

45. You have previously agreed to implement the ring-fencing of rooms on MIAS, to ensure New Zealanders have priority access to a majority of MIQ rooms [briefing 2021-4418 refers]. This functionality was to be activated during August, to cover future room releases.
46. Work is progressing on communications material to support this change. However, given the importance of clear public messaging to manage user expectations and understanding for the virtual lobby pilot, officials intend to defer the introduction of ring-fencing.
47. We will look to activate ring-fencing during September, in consultation with your office over exact timing of public communications.

### **Next steps**

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48. If you agree to the proposed virtual lobby pilot, MIQ officials will continue to work with your office on the timing of the implementation of the lobby and associated room release, taking into account other communications and MIQ room planning considerations relating to the New Zealand community cases. This will include necessary communications materials to support the release.
49. As set out above, a lead time of three to four days from final confirmation of this approach to the release of rooms will be required to allow final technical implementation and necessary public communications.
50. The virtual lobby pilot will initially cover one release of a large number of rooms (currently anticipated to be around 2000 rooms) for September and October.
51. If the initial pilot is successful, officials propose to continue to use the virtual lobby functionality for subsequent room releases, with any necessary improvements based on feedback and observations from user behaviour during the pilot. For example, analysis of website traffic during the pilot may make it possible to indicate not only a person's place in the queue, but how long that user is likely to be waiting to access the booking system.



52. The timing of these steps may be subject to change due to MIQ's response to the current New Zealand community outbreak, in consultation with your office. This includes potential changes to the amount of MIQ capacity held to support community cases, which may affect the timing and size of room releases (in particular, the number of rooms able to be released for September as part of the virtual lobby pilot).

## Annex One: Virtual Lobby approach user experience

The following images are illustrative of the intended user experience of the virtual lobby approach being piloted. Details remain in development and these images include holding text (for example, the references to “Satellite” in place of a finalised event name).

### Lobby

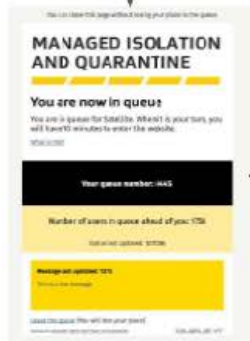
The 'Lobby' interface features a white background with a yellow header bar containing the text 'MANAGED ISOLATION AND QUARANTINE'. Below this is a yellow bar with the event name 'Satellite'. A paragraph explains that the event has not yet begun and users will be assigned a random place in the queue. A black bar displays 'The event will begin at: 12:00'. A large yellow bar shows a countdown timer of '07 Minutes 42 Seconds' and 'Status last updated: 12:15:56'. A smaller yellow bar at the bottom shows 'Message last updated: 12:15' and 'This is a test message.' The bottom of the screen includes a queue ID and the 'QUEUE-IT' logo.

### Queue

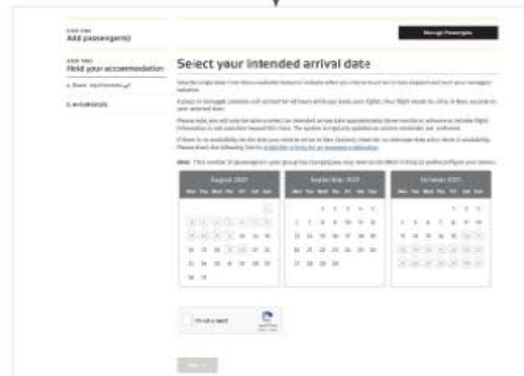
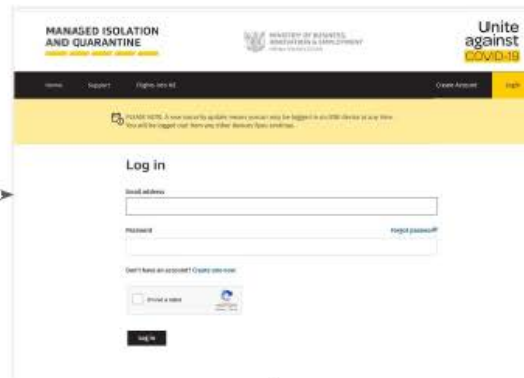
The 'Queue' interface features a white background with a yellow header bar containing the text 'MANAGED ISOLATION AND QUARANTINE'. Below this is a yellow bar with the text 'You are now in queue'. A paragraph explains that users are in the queue for the event and will have 10 minutes to enter the website. A black bar displays 'Your queue number: 8445'. A yellow bar shows 'Number of users in queue ahead of you: 1758' and 'Status last updated: 12:15:56'. A larger yellow bar at the bottom shows 'Message last updated: 12:15' and 'This is a test message.' The bottom of the screen includes a queue ID, a 'Leave the queue' warning, and the 'QUEUE-IT' logo.

# Top Level User Flow - Successful User

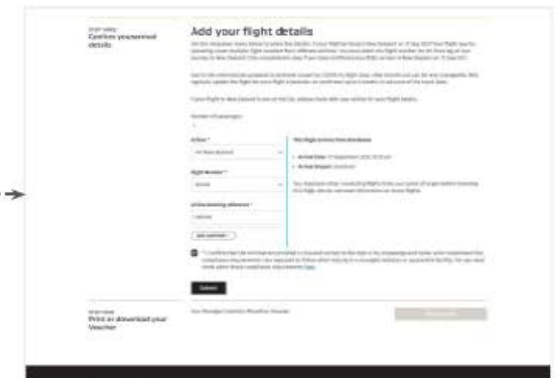
## Lobby / waiting room



## Log in, select date



## Select flight, get voucher



**SATELLITE**